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**NATIONAL INSTRUMENT 51-101**  
***STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES***

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NATIONAL INSTRUMENT 51-101  
STANDARDS OF DISCLOSURE  
FOR OIL AND GAS ACTIVITIES

PART 1 APPLICATION AND TERMINOLOGY<sup>1</sup>

1.1 Definitions<sup>2</sup> - In this *Instrument*:

- (a) "*annual information form*" has the same meaning as "AIF" in National Instrument ~~51-102 *Continuous Disclosure Obligations*~~; NI 51-102 as amended December 30, 2005

(a.1) "*analogous information*" means information about an area outside the area in which the *reporting issuer* has an interest or intends to acquire an interest, which is referenced by the *reporting issuer* for the purpose, in the opinion of a reasonable person, of drawing a comparison or conclusion to an area in which the *reporting issuer* has an interest or intends to acquire an interest and may include:

(i) *historic information concerning reserves*;

(ii) *estimates of the volume or value of reserves*;

(iii) *historic information concerning resources*;

(iv) *estimates of the volume or value of resources*;

(v) *historic production amounts*;

(vi) *production estimates*; or

(vii) *information concerning a field, well, basin or reservoir*;

(a.2) "*anticipated results*" means information that may, in the opinion of a reasonable person, indicate the potential value or quantities of *resources* in respect of the *reporting issuer's resources* or a portion of its *resources*, which may include:

(i) *an estimate of volume*;

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<sup>1</sup> For the convenience of readers, Appendix 1 to Companion Policy 51-101CP sets out the meanings of terms, including those defined in this Part, that are printed in italics in this *Instrument*, *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* or the Companion Policy.

<sup>2</sup> A national definition instrument has been adopted as *NI 14-101*. It contains definitions of certain terms used in more than one national or multilateral instrument. *NI 14-101* provides that a term used in a national or multilateral instrument and defined in the statute relating to securities of the applicable *jurisdiction*, the definition of which is not restricted to a specific portion of the statute, will have the meaning given to it in that statute unless the context otherwise requires. *NI 14-101* also provides that a provision or a reference within a provision of a national or multilateral instrument that specifically refers by name to a jurisdiction other than the local jurisdiction shall not have any effect in the local jurisdiction, unless otherwise stated in that national or multilateral instrument.

(ii) an estimate of value:

(iii) areal extent:

(iv) anticipated pay thickness:

(v) flow rates; or

(vi) hydrocarbon content:

- (b) "BOEs" means barrels of *oil* equivalent;
- (c) "CICA" means The Canadian Institute of Chartered Accountants;
- (d) "*CICA Accounting Guideline 516*" means Accounting Guideline AcG-5 "~~Full cost~~ **16 "Oil and gas** accounting in the oil and gas industry- **full cost**" included in the *CICA Handbook*, as amended from time to time;
- (e) "*CICA Handbook*" means the Handbook of the *CICA*, as amended from time to time;
- (f) "*COGE Handbook*" means the "Canadian Oil and Gas Evaluation Handbook" prepared jointly by The Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society), as amended from time to time;
- (g) ~~"constant prices and costs" means the prices and costs used in an estimate that are:~~  
repealed:
- (i) ~~the reporting issuer's prices and costs as at the effective date of the estimation, held constant throughout the estimated lives of the properties to which the estimate applies;~~
- (ii) ~~if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the reporting issuer is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in subparagraph (i);~~
- (h) "*effective date*", in respect of information, means the date as at which, or for the period ended on which, the information is provided;
- (i) "*FAS 19*" means United States Financial Accounting Standards Board Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies", as amended from time to time;
- (j) "*forecast prices and costs*" means future prices and costs that are:

- (i) generally accepted as being a reasonable outlook of the future;
- (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in subparagraph (i);
- (k) "*foreign geographic area*" means a geographic area outside North America within one country or including all or portions of a number of countries;
- (l) "*Form 51-101F1*" means Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*;
- (m) "*Form 51-101F2*" means Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*;
- (n) "*Form 51-101F3*" means Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*;
- (o) "*independent*", in respect of the relationship between a *reporting issuer* and a *qualified reserves evaluator or auditor*, has the meaning set out in ~~the COGE Handbook~~; **person or company, means a relationship between the reporting issuer and that person or company in which there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with that person's or company's exercise of judgment regarding the preparation of information which is used by the reporting issuer.**
- (p) "*McfGEs*" means thousand cubic feet of *gas* equivalent;
- (q) "*NI 14-101*" means National Instrument 14-101 *Definitions*;
- (r) ~~repealed December 30, 2005;~~
- (r.1) "*NI 51-102*" means National Instrument 51-102 *Continuous Disclosure Obligations*.**
- (s) "*oil and gas activities*"
  - (i) include:
    - (A) the search for *crude oil* or *natural gas* in their natural states and original locations;
    - (B) the acquisition of property rights or *properties* for the purpose of further exploring for or removing *oil* or *gas* from *reservoirs* on those *properties*;

- (C) the construction, drilling and *production* activities necessary to retrieve *oil* and *gas* from their natural *reservoirs*, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems including lifting the *oil* and *gas* to the surface and gathering, treating, *field* processing and *field* storage; and
  - (D) the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources and activities similar to those referred to in clauses (A), (B) and (C) undertaken with a view to such extraction; but
- (ii) do not include:
- (A) transporting, refining or marketing *oil* or *gas*;
  - (B) activities relating to the extraction of natural resources other than *oil* and *gas* and their by-products; or
  - (C) the extraction of geothermal steam or of hydrocarbons as a by-product of the extraction of geothermal steam or associated geothermal resources;
- (t) "*preparation date*", in respect of written disclosure, means the most recent date to which information relating to the period ending on the *effective date* was considered in the preparation of the disclosure;
- (u) "*production group*" means one of the following together, in each case, with associated by-products:
- (i) light and medium *crude oil* (combined);
  - (ii) *heavy oil*;
  - (iii) *associated gas* and *non-associated gas* (combined); and
  - (iv) *bitumen, synthetic oil* or other products from non-conventional *oil and gas activities*.
- (v) "*product type*" means one of the following:
- (i) in respect of conventional *oil and gas activities*:
    - (A) light and medium *crude oil* (combined);
    - (B) *heavy oil*;
    - (C) *natural gas* excluding *natural gas liquids*; or
    - (D) *natural gas liquids*; and
  - (ii) in respect of non-conventional *oil and gas activities*:

- (A) *synthetic oil*;
- (B) *bitumen*;
- (C) coal bed methane; or
- (D) hydrates;
- (E) shale oil; or**
- (F) shale gas;**

- (w) "*professional organization*" means a self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose professional practice includes *reserves evaluations* or *reserves audits*, that:
- (i) admits members primarily on the basis of their educational qualifications;
  - (ii) requires its members to comply with the professional standards of competence and ethics prescribed by the organization that are relevant to the estimation, *evaluation*, *review* or *audit* of *reserves data*;
  - (iii) has disciplinary powers, including the power to suspend or expel a member; and
  - (iv) is either:
    - (A) given authority or recognition by statute in a Canadian jurisdiction; or
    - (B) accepted for this purpose by the *securities regulatory authority* or the *regulator*;
- (x) "*qualified reserves auditor*" means an individual who:
- (i) in respect of particular *reserves data*, **resources** or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation*, *review* and *audit* of the *reserves data*, **resources** and related information; and
  - (ii) is a member in good standing of a *professional organization*;
- (y) "*qualified reserves evaluator*" means an individual who:
- (i) in respect of particular *reserves data*, **resources** or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation* and *review* of the *reserves data*, **resources** and related information; and
  - (ii) is a member in good standing of a *professional organization*;

(z) "qualified reserves evaluator or auditor" means a *qualified reserves auditor* or a *qualified reserves evaluator*;

~~(aa) "reserves data" means the following estimates, as at the last day of the reporting issuer's most recent financial year:~~

~~(i) proved reserves and related future net revenue estimated:~~

~~(A) using constant prices and costs as at the last day of that financial year; and~~

~~(B) using forecast prices and costs; and~~

**(z.1) "reserves" means proved, probable or possible reserves;**

**(aa) (ii) "reserves data" means an estimate of proved reserves and** *probable reserves and related future net revenue,* ~~estimated using forecast prices and costs; and~~

(bb) "supporting filing" means a document filed by a *reporting issuer* with a *securities regulatory authority*.

## 1.2 **COGE Handbook Definitions**

(1) Terms used in this *Instrument* but not defined in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction*, and defined or interpreted in the *COGE Handbook*, have the meaning or interpretation ascribed to those terms in the *COGE Handbook*.

(2) In the event of a conflict or inconsistency between the definition of a term in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction* and the meaning ascribed to the term in the *COGE Handbook*, the definition in this *Instrument*, *NI 14-101* or the securities statute in the *jurisdiction*, as the case may be, ~~shall~~will apply.

1.3 **Applies to Reporting Issuers Only** - This *Instrument* applies only to *reporting issuers* engaged, directly or indirectly, in *oil and gas activities*.

## 1.4 **Materiality Standard**

(1) This *Instrument* applies only in respect of information that is *material* in respect of a *reporting issuer*.

(2) For the purpose of subsection (1), information is *material* in respect of a *reporting issuer* if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the *reporting issuer*.

## PART 2 ANNUAL FILING REQUIREMENTS

2.1 **Reserves Data and Other Oil and Gas Information** - A *reporting issuer* ~~shall~~must, not later than the date on which it is required by *securities legislation* to file



audited financial statements for its most recent financial year, file with the *securities regulatory authority* the following:

1. **Statement of *Reserves Data* and Other Information** - a statement of the *reserves data* and other information specified in *Form 51-101F1*, as at the last day of the *reporting issuer's* most recent financial year and for the financial year then ended;
2. **Report of *Independent Qualified Reserves Evaluator or Auditor*** - a report in accordance with *Form 51-101F2* that is:
  - (a) included in, or filed concurrently with, the document filed under item 1; and
  - (b) executed by one or more *qualified reserves evaluators or auditors* each of whom is *independent* of the *reporting issuer*, who ~~shall~~**must** in the aggregate have:
    - (i) *evaluated* or audited at least 75 percent of the *future net revenue* (calculated using a discount rate of 10 percent) attributable to *proved plus probable reserves*, as reported in the statement filed or to be filed under item 1; and
    - (ii) *reviewed* the balance of such *future net revenue*; and
3. **Report of Management and Directors** – a report in accordance with *Form 51-101F3* that
  - (a) refers to the information filed or to be filed under items 1 and 2;
  - (b) confirms the responsibility of management of the *reporting issuer* for the content and filing of the statement referred to in item 1 and for the filing of the report referred to in item 2;
  - (c) confirms the role of the board of directors in connection with the information referred to in paragraph (b);
  - (d) is contained in, or filed concurrently with, the statement filed under item 1; and
  - (e) is executed by two senior officers and two directors of the *reporting issuer*.

~~as amended September 19, 2005~~

- 2.2 **News Release Notice to Announce Filing** - A *reporting issuer* ~~shall~~**must**, concurrently with filing a statement and reports under section 2.1, disseminate a ~~news release~~ **and file with the *securities regulatory authority* a notice** announcing that filing and indicating where a copy of the filed information can be found for viewing by electronic means.

**2.3 Inclusion in *Annual Information Form*** - The requirements of section 2.1 may be satisfied by including the information specified in section 2.1 in an *annual information form* filed within the time specified in section 2.1.

**2.4 *Reservation in Report of Qualified Reserves Evaluator or Auditor***

- (1) If a *qualified reserves evaluator or auditor* cannot report on *reserves data* without *reservation*, the *reporting issuer* ~~shall~~must ensure that the report of the *qualified reserves evaluator or auditor* prepared for the purpose of item 2 of section 2.1 sets out the cause of the *reservation* and the effect, if known to the *qualified reserves evaluator or auditor*, on the *reserves data*.
- (2) A report containing a *reservation*, the cause of which can be removed by the *reporting issuer*, does not satisfy the requirements of item 2 of section 2.1.

**PART 3 RESPONSIBILITIES OF *REPORTING ISSUERS* AND DIRECTORS**

**3.1 Interpretation** - A reference to a board of directors in this Part means, for a *reporting issuer* that does not have a board of directors, those individuals whose authority and duties in respect of that *reporting issuer* are similar to those of a board of directors.

**3.2 *Reporting Issuer to Appoint Independent Qualified Reserves Evaluator or Auditor*** - A *reporting issuer* ~~shall~~must appoint one or more *qualified reserves evaluators or auditors*, each of whom is *independent* of the *reporting issuer*, to report to the board of directors of the *reporting issuer* on its *reserves data*.

**3.3 *Reporting Issuer to Make Information Available to Qualified Reserves Evaluator or Auditor*** - A *reporting issuer* ~~shall~~must make available to the *qualified reserves evaluators or auditors* that it appoints under section 3.2 all information reasonably necessary to enable the *qualified reserves evaluators or auditors* to provide a report that will satisfy the applicable requirements of this Instrument.

**3.4 *Certain Responsibilities of Board of Directors*** - The board of directors of a *reporting issuer* ~~shall~~must

- (a) review, with reasonable frequency, the *reporting issuer's* procedures relating to the disclosure of information with respect to *oil and gas activities*, including its procedures for complying with the disclosure requirements and restrictions of this *Instrument*;
- (b) review each appointment under section 3.2 and, in the case of any proposed change in such appointment, determine the reasons for the proposal and whether there have been disputes between the appointed *qualified reserves evaluator or auditor* and management of the *reporting issuer*;

- (c) review, with reasonable frequency, the *reporting issuer's* procedures for providing information to the *qualified reserves evaluators or auditors* who report on *reserves data* for the purposes of this *Instrument*;
- (d) before approving the filing of *reserves data* and the report of the *qualified reserves evaluators or auditors* thereon referred to in section 2.1, meet with management and each *qualified reserves evaluator or auditor* appointed under section 3.2, to
  - (i) determine whether any restrictions affect the ability of the *qualified reserves evaluator or auditor* to report on *reserves data* without reservation; and
  - (ii) review the *reserves data* and the report of the *qualified reserves evaluator or auditor* thereon; and
- (e) review and approve
  - (i) the content and filing, under section 2.1, of the statement referred to in item 1 of section 2.1;
  - (ii) the filing, under section 2.1, of the report referred to in item 2 of section 2.1; and
  - (iii) the content and filing, under section 2.1, of the report referred to in item 3 of section 2.1.

### 3.5 **Reserves Committee**

- (1) The board of directors of a *reporting issuer* may, subject to subsection (2), delegate the responsibilities set out in section 3.4 to a committee of the board of directors, provided that a majority of the members of the committee
  - (a) are individuals who are not and have not been, during the preceding 12 months:
    - (i) an officer or employee of the *reporting issuer* or of an affiliate of the *reporting issuer*;
    - (ii) a person who beneficially owns 10 percent or more of the outstanding voting securities of the *reporting issuer*; or
    - (iii) a relative of a person referred to in subparagraph (a)(i) or (ii), residing in the same home as that person; and
  - (b) are free from any business or other relationship which could reasonably be seen to interfere with the exercise of their independent judgement.

- (2) Despite subsection (1), a board of directors of a *reporting issuer* shall must not delegate its responsibility under paragraph 3.4(e) to approve the content or the filing of information.
- (3) A board of directors that has delegated responsibility to a committee pursuant to subsection (1) shall must solicit the recommendation of that committee as to whether to approve the content and filing of information for the purpose of paragraph 3.4(e).

### 3.6 ~~repealed September 19, 2005~~

## PART 4 MEASUREMENT

4.1 **Accounting Methods** - A *reporting issuer* engaged in *oil and gas activities* that discloses financial statements prepared in accordance with *Canadian GAAP* shall must use

- (a) the full cost method of accounting, applying *CICA Accounting Guideline 516*; or
- (b) the successful efforts method of accounting, applying *FAS 19*.

### 4.2 ~~Requirements for Disclosed Reserves Data~~

~~(1) A *reporting issuer* shall ensure that estimates of reserves or future net revenue contained in a document filed with the securities regulatory authority under this Instrument satisfy the following requirements:~~

- ~~(a) the estimates shall be~~
  - ~~(i) prepared or audited by a *qualified reserves evaluator or auditor*;~~
  - ~~(ii) prepared or audited in accordance with the *COGE Handbook*; and~~
  - ~~(iii) estimated assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the *reporting issuer* of funding required for that development;~~
- ~~(b) for the purpose of determining whether reserves should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* shall be taken into account; and~~
- ~~(c) aggregate *future net revenue* shall be estimated deducting~~
  - ~~(i) reasonably estimated future *well abandonment costs*; and~~

~~(ii) — future income tax expenses (unless otherwise specified in this Instrument, Form 51-101F1 or Form 51-101F2).~~

**4.2** ~~(2)~~ **Consistency in Dates** - The date or period with respect to which the effects of an event or transaction are recorded in a *reporting issuer's* annual financial statements ~~shall~~**must** be the same as the date or period with respect to which they are first reflected in the *reporting issuer's* annual *reserves data* disclosure under Part 2.

## **PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE**

**5.1 Application of Part 5** - This Part applies to disclosure made by or on behalf of a *reporting issuer*

- (a) to the public;
- (b) in any document filed with a *securities regulatory authority*; or
- (c) in other circumstances in which, at the time of making the disclosure, the *reporting issuer* knows, or ought reasonably to know, that the disclosure is or will become available to the public.

**5.2 Consistency with Disclosure of Reserves Data and Other Information** - If a *reporting issuer* makes disclosure of reserves or other information of a type that is required to be included in a statement filed with a *securities regulatory authority* under item 1 of section 2.1, the information shall be specified in Form 51-101F1, **the reporting issuer must ensure that the disclosure satisfies the following requirements:**

- (a) ~~prepared in accordance with Part 4; and~~ **estimates of reserves or future net revenue must**
  - (i) disclose the effective date of the estimate;**
  - (ii) have been prepared or audited by a qualified reserves evaluator or auditor;**
  - (iii) have been prepared or audited in accordance with the COGE Handbook;**
  - (iv) have been estimated assuming that development of each property in respect of which the estimate is made will occur, without regard to the likely availability to the reporting issuer of funding required for that development; and**
  - (v) in the case of estimates of possible reserves or related future net revenue disclosed in writing, also include cautionary language proximate to the estimate to the following effect:**

"Possible reserves are those additional reserves that are less certain to be recovered than probable reserves. There is only a 10% probability that the quantities actually recovered will equal or exceed the sum of proved plus probable plus possible reserves.";

- (b) for the purpose of determining whether reserves should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* must have been taken into account;
- (c) in disclosing aggregate *future net revenue* it must comply with the requirements for the determination of *future net revenue* specified in *Form 51-101F1*; and
- (d) ~~(b) the disclosure must be~~ consistent with the corresponding information, if any, contained in the statement most recently filed by the *reporting issuer* with the *securities regulatory authority* under item 1 of section 2.1, except to the extent that such statement has been supplemented or superseded by a report of a material change<sup>3</sup> filed by the *reporting issuer* with the *securities regulatory authority*.

- 5.3 **Reserves and Resources Classification** - Disclosure of *reserves* or *resources* ~~shall be consistent with~~ must apply the *reserves* and *resources* terminology and categories set out in the *COGE Handbook* and must relate to the most specific category of reserves or resources in which the reserves or resources can be classified.
- 5.4 **Oil and Gas Reserves and Sales** - Disclosure of *reserves* or of sales of *oil*, *gas* or associated by-products ~~shall~~ must be made only in respect of *marketable* quantities, reflecting the quantities and prices for the product in the condition (upgraded or not upgraded, processed or unprocessed) in which it is to be, or was, sold.
- 5.5 **Natural Gas By-Products** - Disclosure concerning *natural gas* by-products (including *natural gas liquids* and sulphur) ~~shall~~ must be made in respect only of volumes that have been or are to be recovered prior to the point at which *marketable gas* is measured.
- 5.6 **Future Net Revenue Not Fair Market Value** - Disclosure of an estimate of *future net revenue*, whether calculated without discount or using a discount rate, ~~shall~~ must include a statement to the effect that the estimated values disclosed do not represent fair market value.

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<sup>3</sup>

"Material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

## 5.7 Consent of *Qualified Reserves Evaluator or Auditor*

- (1) A *reporting issuer* ~~shall~~must not disclose a report referred to in item 2 of section 2.1 that has been delivered to the board of directors of the *reporting issuer* by a *qualified reserves evaluator or auditor* pursuant to an appointment under section 3.2, or disclose information derived from the report or the identity of the *qualified reserves evaluator or auditor*, without the written consent of that *qualified reserves evaluator or auditor*.
- (2) Subsection (1) does not apply to
  - (a) the filing of that report by a *reporting issuer* under section 2.1;
  - (b) the use of or reference to that report in another document filed by the *reporting issuer* under section 2.1; or
  - (c) the identification of the report or of the *qualified reserves evaluator or auditor* in a ~~news release~~notice referred to in section 2.2.

## 5.8 Disclosure of Less Than All Reserves - If a *reporting issuer* that has more than one *property* makes written disclosure of any *reserves* attributable to a particular *property*

- (a) the disclosure ~~shall~~must include a cautionary statement to the effect that

"The estimates of reserves and future net revenue for individual properties may not reflect the same confidence level as estimates of reserves and future net revenue for all properties, due to the effects of aggregation"; and
- (b) the document containing the disclosure of any *reserves* attributable to one *property* ~~shall~~must also disclose total *reserves* of the same classification for all *properties* of the *reporting issuer* in the same country (or, if appropriate and not misleading, in the same *foreign geographic area*).

## 5.9 Disclosure Concerning ~~Prospects~~ of Resources

- (1) If a *reporting issuer* discloses *anticipated results* from ~~a prospect~~resources which are not currently classified as reserves, the *reporting issuer* ~~shall~~must also disclose in writing, in the same document or in a *supporting filing*, ~~in respect of the prospect~~
  - ~~(a)~~ the location and basin name;
  - (a) ~~(b)~~ the *reporting issuer's* ~~gross and net's~~ interest in the *property*, expressed in units of area (acres or hectares); resources;

- ~~(c) — in the case of undeveloped *property* in which the *reporting issuer* holds a leasehold interest, the expiry date of that interest;~~
- ~~(d) — the name, geologic age and lithology of the target zone;~~
- ~~(e) — the distance to the nearest analogous commercial production;~~
- (b) the location of the *resources*;**
- (c) (f) — the *product types* reasonably expected;**
- (d) (g) — the range of pool or *field* sizes;**
- ~~(h) — the depth of the target zone;~~
- ~~(i) — the estimated cost to drill and test a well to the target depth;~~
- ~~(j) — reasonably expected drilling commencement and completion dates;~~
- ~~(k) — the anticipated prices to be received for each *product type* reasonably expected;~~
- ~~(l) — reasonably expected marketing and transportation arrangements;~~
- ~~(m) — the identity and relevant experience of the operator;~~
- ~~(n) — risks and the probability of success; and **level of uncertainty associated with recovery of the *resources*; and**~~
- ~~(o) — the applicable information specified in section 5.10.~~

~~5.10 — Estimates of Fair Value of an *Unproved Property, Prospect or Resource*~~

- (e) in the case of *unproved property*, if its value is disclosed,**
  - (i) the basis of the calculation of its value; and**
  - (ii) whether the value was prepared by an *independent party*.**
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of *resources* in which the *reporting issuer* has an interest or intends to acquire an interest, or an estimated value attributable to an estimated quantity, the estimate must**
  - (a) have been prepared or audited by a *qualified reserves evaluator or auditor*.**
  - (b) relate to the most specific category of *resources* in which the *resources* can be classified, as set out in the *COGE Handbook*, and must identify what portion of the estimate is attributable to each category; and**



(c) be accompanied by the following information:

(i) a definition of the *resources* category used for the estimate;

(ii) the *effective date* of the estimate;

(iii) (1) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, prospect or resource*, or discloses expected results from a *prospect*, the disclosure shall include all the significant positive and negative factors relevant to the estimate or expectation;

~~(2) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, prospect or resource*~~

~~(a) in the case of an estimate of the fair value of an *unproved property*, except as provided in paragraph (b), the estimate shall be based on the first applicable item listed below, and that item shall be described as the basis of the estimate in the document containing the disclosure or in a *supporting filing*:~~

~~1. the acquisition cost to the *reporting issuer*, provided that there have been no material changes in the *unproved property*, the surrounding *properties*, or the general *oil and gas* economic climate since acquisition;~~

~~2. recent sales by others of interests in the same *unproved property*;~~

~~3. terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;~~

~~4. terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;~~

~~5. recent sales of similar *properties* in the same general area;~~

~~(b) in the case of an estimate of fair value to which none of the items listed in paragraph (a) applies~~

~~(i) the estimate shall be prepared or accepted by a professional valuator (who is not a "related party" of the *reporting issuer* within the meaning of the term as used in the *CICA Handbook*) applying valuation standards established by the professional body of which the valuator is a member and from which the valuator derives professional standing;~~

~~(ii) the estimate shall consist of at least three values that reflect a range of reasonable likelihoods (the low value being conservative, the middle value being the median and the~~

high value being optimistic) reflecting courses of action expected to be followed by the *reporting issuer*;

(iii) ~~the estimate, and the identities of the professional valuator and of the professional body referred to in subparagraph (i), shall be set out in the document containing the disclosure or in a *supporting filing*; and~~

(iv) the *reporting issuer* shall obtain from the professional valuator referred to in subparagraph (i) estimated percentage probability that the issuer will

(A) discover hydrocarbons in sufficient quantity for them to be tested to the surface, in the case of undiscovered resources or a subcategory of undiscovered resources; or

(B) commercially extract the volume disclosed, in the case of discovered resources or a subcategory of discovered resources other than reserves;

(v) in respect of contingent resources, the specific contingencies which prevent the classification of the resources as reserves; and

(vi) cautionary language proximate to the estimate to the effect that:

(A) a report on the estimate that does not contain in the case of discovered resources or a subcategory of discovered resources other than reserves;

(i) a disclaimer that materially detracts from the usefulness of the estimate; or

(ii) a statement that the report may not be relied on; and

“There is no certainty that it will be economically viable or technically feasible to produce any portion of the resources.”; or

(B) the professional valuator's written consent to the disclosure of the report by the *reporting issuer* to the public in the case of undiscovered resources or a subcategory of undiscovered resources;

“There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be economically viable or

technically feasible to produce any portion of the resources."

- (3) Paragraphs 5.9(1)(d) and (e) and subparagraphs 5.9(2)(c)(iii),(iv) and (v) do not apply if
- (a) the reporting issuer includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
  - (b) the resources in the written disclosure, taking into account the specific properties and interests reflected in the resources estimate or other anticipated result, are materially the same resources addressed in the previously filed document.

#### 5.10 Analogous Information

- (1) Sections 5.2, 5.3 and 5.9 do not apply to the disclosure of analogous information provided that the reporting issuer discloses the following:
- (a) the source and date of the analogous information;
  - (b) whether the source of the analogous information was independent;
  - (c) if the reporting issuer is unable to confirm that the analogous information was prepared by a qualified reserves evaluator or auditor or in accordance with the COGE Handbook, cautionary language to that effect proximate to the disclosure of the analogous information; and
  - (d) the relevance of the analogous information to the reporting issuer's oil and gas activities.
- (2) If a reporting issuer discloses information that is an anticipated result, an estimate of a quantity of reserves or resources, or an estimate of value attributable to an estimated quantity of reserves or resources for an area in which it has an interest or intends to acquire an interest that is based on an extrapolation from analogous information sections 5.2, 5.3 and 5.9 will apply to the disclosure of the information.

5.11 **Net Asset Value and Net Asset Value per Share** - Written disclosure of net asset value or net asset value per share shall must include a description of the methods used to value assets and liabilities and the number of shares used in the calculation.

5.12 **Reserve Replacement** - Written disclosure concerning reserve replacement shall must include an explanation of the method of calculation applied.

**5.13 Netbacks** - Written disclosure of a netback must

- ~~(a)~~ shall include separate netbacks for each ~~product type by country~~ (or, if appropriate and not misleading, by ~~foreign geographic area~~);
- (a) ~~(b)~~ shall reflect netbacks calculated by subtracting royalties and *operating costs* from revenues; and
- (b) ~~(c)~~ shall state the method of calculation.

**5.14 BOEs and McfGEs** - If written disclosure includes information expressed in *BOEs*, *McfGEs* or other units of equivalency between *oil* and *gas*

- (a) the information shall must be presented
  - (i) in the case of *BOEs*, using *BOEs* derived by converting *gas* to *oil* in the ratio of six thousand cubic feet of *gas* to one barrel of *oil* (6 *Mcf*:1 *bbl*);
  - (ii) in the case of *McfGEs*, using *McfGEs* derived by converting *oil* to *gas* in the ratio of one barrel of *oil* to six thousand cubic feet of *gas* (1 *bbl*:6 *Mcf*); and
  - (iii) with the conversion ratio stated;
- (b) if the information is also presented using *BOEs* or *McfGEs* derived using a conversion ratio other than a ratio specified in paragraph (a), the disclosure shall must state that other conversion ratio and explain why it has been chosen;
- (c) if the information is presented using a unit of equivalency other than *BOEs* or *McfGEs*, the disclosure shall must identify the unit, state the conversion ratio used and explain why it has been chosen; and
- (d) the disclosure shall must include a cautionary statement to the effect that:

"BOEs [or '*McfGEs*' or other applicable units of equivalency] may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 *Mcf*: 1 *bbl* [or '*An McfGE* conversion ratio of 1 *bbl*: 6 *Mcf*'] is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead".

**5.15 Finding and Development Costs** - If written disclosure is made of finding and *development costs*;

- (a) those costs ~~shall~~must be calculated using the following two methods, in each case after eliminating the effects of acquisitions and dispositions:

$$\text{Method 1:} \quad \frac{a+b+c}{x}$$

$$\text{Method 2:} \quad \frac{a+b+d}{y}$$

- where
- a = *exploration costs* incurred in the most recent financial year
  - b = *development costs* incurred in the most recent financial year
  - c = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves*
  - d = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves* and *probable reserves*
  - x = additions to *proved reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency
  - y = additions to *proved reserves* and *probable reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency

- (b) the disclosure ~~shall~~must include
- (i) the results of both methods of calculation under paragraph (a) and a description of those methods;
  - (ii) if the disclosure also includes a result derived using any other method of calculation, a description of that method and the reason for its use;
  - (iii) for each result, comparative information for the most recent financial year, the second most recent financial year and the averages for the three most recent financial years;
  - (iv) a cautionary statement to the effect that:  

"The aggregate of the exploration and development costs incurred in the most recent financial year and the change during that year in estimated future development costs generally will not reflect total finding and development costs related to reserves additions for that year"; and
  - (v) the cautionary statement required under paragraph 5.14(d).

## PART 6 MATERIAL CHANGE DISCLOSURE

### 6.1 Material Change<sup>4</sup> from Information Filed under Part 2

- (1) This Part applies in respect of a material change that, had it occurred on or before the *effective date* of information included in the statement most recently filed by a *reporting issuer* under item 1 of section 2.1, would have resulted in a significant change in the information contained in the statement.
- (2) In addition to any other requirement of *securities legislation* governing disclosure of a material change, disclosure of a material change referred to in subsection (1) ~~shall~~ **must discuss the reporting issuer's reasonable expectation of how the material change has affected its reserves data or other information.**
  - (a) ~~identify the statement filed under Part 2 that contains the original information referred to in subsection (1); and~~
  - (b) ~~discuss the reporting issuer's reasonable expectation of how the material change, had it occurred on or before the effective date referred to in subsection (1), would have affected the reserves data or other information contained in the document identified under paragraph (a).~~

## PART 7 OTHER INFORMATION

- 7.1 **Information to be Furnished on Request** - A *reporting issuer* ~~shall~~ **must**, on the request of the *regulator*, deliver additional information with respect to the content of a document filed under this *Instrument*.

## PART 8 EXEMPTIONS

### 8.1 Authority to Grant Exemption

- (1) The *regulator* or the *securities regulatory authority* may grant an exemption from this *Instrument*, in whole or in part, subject to such conditions or restrictions as may be imposed in the exemption.
- (2) Despite subsection (1), in Ontario only the *regulator* may grant an exemption.

### 8.2 Exemption for Certain Exchangeable Security Issuers

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<sup>4</sup> In this Part, "material change" has the meaning ascribed to the term under *securities legislation* of the applicable jurisdiction.

- (1) An exchangeable security issuer, as defined in subsection 13.3(1) of NI 51-102, is exempt from this Instrument provided that all of the requirements of subsection 13.3(2) of NI 51-102 are satisfied;
- (2) For the purposes of subsection (1), the reference to “continuous disclosure documents” in clause 13.3(2)(d)(ii)(A) of NI 51-102 includes documents filed in accordance with this Instrument.

## PART 9 INSTRUMENT IN FORCE

9.1 **Coming Into Force** - This *Instrument* comes into force on September 30, 2003.

9.2 **Transition** - Despite section 9.1, this *Instrument* does not apply to a *reporting issuer* until the earlier of:

- (a) the date by which the *reporting issuer* is required under *securities legislation* to file audited annual financial statements for its financial year that includes or ends on December 31, 2003; and
- (b) the first date on which the *reporting issuer* files with the *securities regulatory authority* the statement referred to in item 1 of section 2.1.

Document comparison done by DeltaView on Thursday, December 14, 2006 13:03:15

Input:	
Document 1	pdocs://asc_lib1/2105907/2
Document 2	pdocs://asc_lib1/2296948/2
Rendering set	ASC_Standard

Legend:	
<b><u>Insertion</u></b>	
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Split/Merged cell	
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Statistics:	
	Count
Insertions	173
Deletions	125
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	298



FORM 51-101F1  
**STATEMENT OF RESERVES DATA  
AND OTHER OIL AND GAS INFORMATION**

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**FORM 51-101F1**  
**STATEMENT OF RESERVES DATA**  
**AND OTHER OIL AND GAS INFORMATION**

This is the form referred to in item 1 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

**GENERAL INSTRUCTIONS**

- (1) *Terms for which a meaning is given in NI 51-101 have the same meaning in this Form 51-101F1<sup>1</sup>.*
- (2) *Unless otherwise specified in this Form 51-101F1, information under item 1 of section 2.1 of NI 51-101 shall be provided as at the last day of the reporting issuer's most recent financial year or for its financial year then ended.*
- (3) *It is not necessary to include the headings or numbering, or to follow the ordering of Items, in this Form 51-101F1. Information may be provided in tables.*
- (4) *To the extent that any Item or any component of an Item specified in this Form 51-101F1 does not apply to a reporting issuer and its activities and operations, or is not material, no reference need be made to that Item or component. It is not necessary to state that such an Item or component is "not applicable" or "not material". Materiality is discussed in NI 51-101 and Companion Policy 51-101CP.*
- (5) *This Form 51-101F1 sets out minimum requirements. A reporting issuer may provide additional information not required in this Form 51-101F1 provided that it is not misleading and not inconsistent with the requirements of NI 51-101, and provided that material information required to be disclosed is not omitted.*
- (6) *A reporting issuer may satisfy the requirement of this Form 51-101F1 for disclosure of information "by country" by instead providing information by foreign geographic area in respect of countries outside North America as may be appropriate for meaningful disclosure in the circumstances.*

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<sup>1</sup> For the convenience of readers, Appendix 1 to Companion Policy 51-101CP sets out the meanings of terms that are printed in italics (or, in the Instructions, in bold type) in this Form 51-101F1 or in NI 51-101, Form 51-101F2, Form 51-101F3 or the Companion Policy.

## PART 1      DATE OF STATEMENT

### Item 1.1      Relevant Dates

1.      Date the statement.
2.      Disclose the *effective date* of the information being provided.
3.      Disclose the *preparation date* of the information being provided.

#### INSTRUCTIONS

- (1)      *For the purpose of Part 2 of NI 51-101, and consistent with the definition of **reserves data** and General Instruction (2) of this Form 51-101F1, the **effective date** to be disclosed under section 2 of Item 1.1 is the last day of the **reporting issuer's** most recent financial year. It is the date of the balance sheet for the **reporting issuer's** most recent financial year (for example, "as at December 31, 20xx") and the ending date of the **reporting issuer's** most recent annual statement of income (for example, "for the year ended December 31, 20xx").*
- (2)      *The same **effective date** applies to **reserves** of each category reported and to related **future net revenue**. References to a change in an item of information, such as changes in **production** or a change in **reserves**, mean changes in respect of that item during the year ended on the **effective date**.*
- (3)      *The **preparation date**, in respect of written disclosure, means the most recent date to which information relating to the period ending on the **effective date** was considered in the preparation of the disclosure. The **preparation date** is a date subsequent to the **effective date** because it takes time after the end of the financial year to assemble the information for that completed year that is needed to prepare the required disclosure as at the end of the financial year.*
- (4)      *Because of the interrelationship between certain of the **reporting issuer's reserves data** and other information referred to in this Form 51-101F1 and certain of the information included in its financial statements, the **reporting issuer** should ensure that its financial auditor and its **qualified reserves evaluators or auditors** are kept apprised of relevant events and transactions, and should facilitate communication between them.*
- (5)      *If the **reporting issuer** provides information as at a date more recent than the **effective date**, in addition to the information required as at the **effective date**, also disclose the date as at which that additional information is provided. The provision of such additional information does*

not relieve the **reporting issuer** of the obligation to provide information as at the **effective date**.

## PART 2 DISCLOSURE OF *RESERVES DATA*

### Item 2.1 *Reserves Data (Constant Prices and Costs)*

- ~~1. Breakdown of *Proved Reserves (Constant Case)*—Disclose, by country and in the aggregate, *reserves, gross and net*, estimated using *constant prices and costs*, for each *product type*, in the following categories:
  - ~~(a) *proved developed producing reserves*;~~
  - ~~(b) *proved developed non-producing reserves*;~~
  - ~~(c) *proved undeveloped reserves*; and~~
  - ~~(d) *proved reserves (in total)*.~~~~
- ~~2. Net Present Value of *Future Net Revenue (Constant Case)*—Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *constant prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using a discount rate of 10 percent.~~
- ~~3. Additional Information Concerning *Future Net Revenue (Constant Case)*
  - ~~(a) This section 3 applies to *future net revenue* attributable to *proved reserves (in total)* estimated using *constant prices and costs*.~~
  - ~~(b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *constant prices and costs* and calculated without discount:
    - ~~(i) *revenue*;~~
    - ~~(ii) *royalties*;~~
    - ~~(iii) *operating costs*;~~
    - ~~(iv) *development costs*;~~
    - ~~(v) *abandonment and reclamation costs*;~~
    - ~~(vi) *future net revenue* before deducting *future income tax expenses*;~~
    - ~~(vii) *future income tax expenses*; and~~
    - ~~(viii) *future net revenue* after deducting *future income tax expenses*.~~~~~~

- ~~(c) Disclose, by *production group*, the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *constant prices and costs* and calculated using a discount rate of 10 percent.~~

~~Item 2.2 **Reserves Data (Forecast Prices and Costs)**~~

1. Breakdown of Reserves (Forecast Case) – Disclose, by country and in the aggregate, *reserves, gross* and *net*, estimated using *forecast prices and costs*, for each *product type*, in the following categories:
  - (a) *proved developed producing reserves*;
  - (b) *proved developed non-producing reserves*;
  - (c) *proved undeveloped reserves*;
  - (d) *proved reserves* (in total);
  - (e) *probable reserves* (in total);
  - (f) *proved plus probable reserves* (in total); and
  - (g) if the *reporting issuer* discloses an estimate of *possible reserves* in the statement:
    - (i) *possible reserves* (in total); and
    - (ii) *proved plus probable plus possible reserves* (in total).
2. Net Present Value of Future Net Revenue (Forecast Case) – Disclose, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent. **Also disclose the same information on a unit value basis (e.g., \$/Mcf or \$/bbl using net reserves) using a discount rate of 10 percent and calculated before deducting future income tax expenses. This unit value disclosure requirement may be satisfied by including the unit value disclosure for each category of proved reserves and for probable reserves in the disclosure referred to in paragraph 3(c) of item 2.1.**
3. Additional Information Concerning Future Net Revenue (Forecast Case)
  - (a) This section 3 applies to *future net revenue* attributable to each of the following *reserves* categories estimated using *forecast prices and costs*:
    - (i) *proved reserves* (in total);
    - (ii) *proved plus probable reserves* (in total); and

- (iii) if paragraph 1(g) of this Item applies, *proved plus probable plus possible reserves* (in total).
- (b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *forecast prices and costs* and calculated without discount:
  - (i) revenue;
  - (ii) royalties;
  - (iii) *operating costs*;
  - (iv) *development costs*;
  - (v) abandonment and reclamation costs;
  - (vi) *future net revenue* before deducting *future income tax expenses*;
  - (vii) *future income tax expenses*; and
  - (viii) *future net revenue* after deducting *future income tax expenses*.
- (c) Disclose, by *production group* and on a unit value basis for each production group (e.g., \$/Mcf or \$/bbl using net reserves), the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent.

**Item 2.2 Supplemental Disclosure of Reserves Data (Constant Prices and Costs)**

The reporting issuer may supplement its disclosure of reserves data under item 2.1 by also disclosing the components of item 2.1 in respect of its *proved reserves* or its *proved and probable reserves*, using *constant prices and costs* as at the last day of the reporting issuer's most recent financial year.

**Item 2.3 Reserves Disclosure Varies with Accounting**

In determining *reserves* to be disclosed:

- (a) Consolidated Financial Disclosure – if the *reporting issuer* files consolidated financial statements:
  - (i) include 100 percent of *reserves* attributable to the parent company and 100 percent of the *reserves* attributable to its consolidated subsidiaries (whether or not wholly-owned); and
  - (ii) if a significant portion of *reserves* referred to in clause (i) is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose that fact and the approximate portion of such *reserves* attributable to the minority interest;

- (b) Proportionate Consolidation – if the *reporting issuer* files financial statements in which investments are proportionately consolidated, the *reporting issuer's* disclosed *reserves* must include the *reporting issuer's* proportionate share of investees' *oil* and *gas reserves*; and
- (c) Equity Accounting – if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *oil* and *gas reserves* in disclosed *reserves* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *oil* and *gas reserves* separately.

#### Item 2.4 **Future Net Revenue Disclosure Varies with Accounting**

- 1. Consolidated Financial Disclosure – If the *reporting issuer* files consolidated financial statements, and if a significant portion of the *reporting issuer's* economic interest in *future net revenue* is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose that fact and the approximate portion of the economic interest in *future net revenue* attributable to the minority interest.
- 2. Equity Accounting – If the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *future net revenue* in disclosed *future net revenue* of the *reporting issuer*, but disclose the *reporting issuer's* share of investees' *future net revenue* separately, by country and in the aggregate.

#### INSTRUCTIONS

- (1) Do not include, in **reserves, oil or gas** that is subject to purchase under a long-term supply, purchase or similar agreement. However, if the **reporting issuer** is a party to such an agreement with a government or governmental authority, and participates in the operation of the **properties** in which the **oil or gas** is situated or otherwise serves as "producer" of the **reserves** (in contrast to being an independent purchaser, broker, dealer or importer), disclose separately the **reporting issuer's** interest in the **reserves** that are subject to such agreements at the **effective date** and the **net** quantity of **oil or gas** received by the **reporting issuer** under the agreement during the year ended on the **effective date**.
- (2) **Future net revenue** includes the portion attributable to the **reporting issuer's** interest under an agreement referred to in Instruction (1).
- (3) ~~In the disclosure of "abandonment~~**Constant prices and reclamation costs**~~" referred to in clause 3(b)(v) of Item 2.1 and in clause 3(b)(v) of Item 2.2 include, at minimum, well abandonment costs. The response to Item 6.4 will disclose total abandonment and reclamation costs and (in response to paragraph (d) of Item 6.4) the portion of total abandonment and reclamation costs, if any, not disclosed under clause 3(b)(v) of Item 2.1 and clause 3(b)(v) of Item 2.2.~~**costs are prices and costs used in an estimate that are:**

(a) the reporting issuer's prices and costs as at the effective date of the estimation, held constant throughout the estimated lives of the properties to which the estimate applies;

(b) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the reporting issuer is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (a).

For the purpose of paragraph (a), the reporting issuer's prices will be the posted price for oil and the spot price for gas, after historical adjustments for transportation, gravity and other factors.

### PART 3 PRICING ASSUMPTIONS

#### Item 3.1 Constant Prices Used in Supplemental Estimates

~~For~~ if supplemental disclosure under section 2.2 is made, then disclose, for each product type, ~~disclose~~ the benchmark reference prices for the countries or regions in which the reporting issuer operates, as at the last day of the reporting issuer's most recent financial year, reflected in the reserves data disclosed in response to Item ~~2.1-2.2~~.

#### Item 3.2 Forecast Prices Used in Estimates

1. For each product type, disclose:
  - (a) the pricing assumptions used in estimating reserves data disclosed in response to Item ~~2.2-2.1~~:
    - (i) for each of at least the following five financial years; and
    - (ii) generally, for subsequent periods; and
  - (b) the reporting issuer's weighted average historical prices for the most recent financial year.
2. The disclosure in response to section 1 shall include the benchmark reference pricing schedules for the countries or regions in which the reporting issuer operates, and inflation and other forecast factors used.
3. If the pricing assumptions specified in response to section 1 were provided by a qualified reserves evaluator or auditor who is independent of the reporting issuer, disclose that fact and identify the qualified reserves evaluator or auditor.

#### INSTRUCTIONS

- (1) Benchmark reference prices may be obtained from sources such as public product trading exchanges or prices posted by purchasers.



- (2) ~~The defined terms~~ term "constant prices and costs" and the defined term "forecast prices and costs" include any fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by a contractual or other obligation to supply a physical product, including those for an extension period of a contract that is likely to be extended. In effect, such contractually committed prices override benchmark reference prices for the purpose of estimating **reserves data**. To ensure that disclosure under this Part is not misleading, the disclosure should reflect such contractually committed prices.
- (3) Under subsection 5.7(1) of **NI 51-101**, the **reporting issuer** must obtain the written consent of the **qualified reserves evaluator or auditor** to disclose his or her identity in response to section 3 of this Item.

**PART 4      ~~RECONCILIATION~~ RECONCILIATION OF CHANGES IN RESERVES AND ~~FUTURE~~ NET REVENUE**

**Item 4.1      *Reserves Reconciliation***

1. Provide the information specified in section 2 of this Item in respect of the following *reserves* categories:
  - (a) ~~net~~gross *proved reserves* (in total);
  - (b) ~~net~~gross *probable reserves* (in total); and
  - (c) ~~net~~gross *proved plus probable reserves* (in total).
  
2. Disclose changes between the *reserves* estimates made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:
  - (a) by country;
  - (b) for each of the following:
    - (i) light and medium *crude oil* (combined);
    - (ii) *heavy oil*;
    - (iii) *associated gas* and *non-associated gas* (combined); ~~and~~
    - (iv) ~~*synthetic oil* and other products from non-conventional oil and gas activities;~~
    - (v)      *bitumen*;
    - (vi)      *coal bed methane*;
    - (vii)     *hydrates*;

(viii) shale oil; and

(ix) shale gas;

(c) separately identifying and explaining:

(i) extensions;

~~(ii)~~ and improved recovery;

(ii) ~~(iii)~~ technical revisions;

(iii) ~~(iv)~~ discoveries;

(iv) ~~(v)~~ acquisitions;

(v) ~~(vi)~~ dispositions;

(vi) ~~(vii)~~ economic factors; and

(vii) ~~(viii)~~ production.

#### INSTRUCTIONS

- (1) *The reconciliation required under this Item 4.1 may be provided in respect of **reserves** estimated using ~~either constant prices and costs or forecast prices and costs~~, with the price and cost case indicated in the disclosure.*
- (2) *For the purpose of this Item 4.1, it is sufficient to provide the information in respect of the products specified in paragraph 2(b), excluding **solution gas, natural gas liquids** and other associated by-products.*
- (3) *The **COGE Handbook** provides guidance on the preparation of the reconciliation required under this Item 4.1.*

#### ~~Item 4.2~~ **Future Net Revenue Reconciliation**

- ~~1. Provide the information specified in section 2 of this Item in respect of estimates of *future net revenue* (estimated using *constant prices and costs* and calculated using a discount rate of 10 percent) attributable to *net proved reserves* (in total).~~
- ~~2. Disclose changes between the *future net revenue* estimates referred to in section 1 made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:~~
  - ~~(a) by country;~~
  - ~~(b) separately identifying and explaining:~~

- ~~(i) sales and transfers of *oil, gas* or other *product types* produced during the period net of *production costs* and royalties;~~
- ~~(ii) net change in sales and transfer prices and in *production costs* and royalties related to future *production*;~~
- ~~(iii) changes in previously estimated *development costs* incurred during the period;~~
- ~~(iv) changes in estimated future *development costs*;~~
- ~~(v) net change resulting from extensions and improved recovery;~~
- ~~(vi) net change resulting from discoveries;~~
- ~~(vii) changes resulting from acquisitions of *reserves*;~~
- ~~(viii) changes resulting from dispositions of *reserves*;~~
- ~~(ix) net change resulting from revisions in quantity estimates;~~
- ~~(x) accretion of discount (10 percent of discounted *future net revenue* at the beginning of the financial year);~~
- ~~(xi) net change in income taxes; and~~
- ~~(xii) any other significant factors.~~

#### *INSTRUCTIONS*

- ~~(1) For the purpose of this Part 4, compute the effects of changes in prices and costs before the effects of changes in volumes, so that, in respect of **constant prices and costs**, volumes are reflected at prices as at the **effective date**.~~
- ~~(2) Except in respect of clause 2(b)(xi) of Item 4.2, the information to be provided under this Part is pre-tax information.~~
- ~~(3) For the purpose of clause 2(b)(xi) of Item 4.2, a "net change in income taxes" includes both income taxes incurred during the period and changes in estimated **future income tax expenses**.~~

## **PART 5      ADDITIONAL INFORMATION RELATING TO *RESERVES DATA***

### **Item 5.1      *Undeveloped Reserves***

1. For *proved undeveloped reserves*:
  - (a) disclose for each *product type* the volumes of *proved undeveloped reserves* that were first attributed in each of the most recent ~~five~~three financial years and, in the aggregate, before that time; ~~or~~and

- (b) discuss generally the basis on which the *reporting issuer* attributes *proved undeveloped reserves*, its plans (including timing) for developing the *proved undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *proved undeveloped reserves* during the following two years.
2. For *probable undeveloped reserves*:
- (a) disclose for each *product type* the volumes of *probable undeveloped reserves* that were first attributed in each of the most recent ~~five~~three financial years and, in the aggregate, before that time; ~~or~~and
  - (b) discuss generally the basis on which the *reporting issuer* attributes *probable undeveloped reserves*, its plans (including timing) for developing the *probable undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *probable undeveloped reserves* during the following two years.

**Item 5.2 Significant Factors or Uncertainties**

- 1. Identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*.
- 2. Section 1 does not apply if the information is disclosed in the *reporting issuer's* financial statements for the financial year ended on the *effective date*.

*INSTRUCTION*

*Examples of information that could warrant disclosure under this Item 5.2 include unusually high expected **development costs** or **operating costs**, the need to build a major pipeline or other major facility before **production** of **reserves** can begin, or contractual obligations to **produce** and sell a significant portion of **production** at prices substantially below those which could be realized but for those contractual obligations.*

**Item 5.3 Future Development Costs**

- 1. (a) Provide the information specified in paragraph 1(b) in respect of *development costs* deducted in the estimation of *future net revenue* attributable to each of the following *reserves* categories:
  - (i) *proved reserves* (in total) estimated using ~~constant prices and costs;~~ forecast prices and costs; and
  - ~~(ii) *proved reserves* (in total) estimated using *forecast prices and costs*; and~~
  - (ii) ~~(iii)~~ *proved plus probable reserves* (in total) estimated using *forecast prices and costs*.

- (b) Disclose, by country, the amount of *development costs* estimated:
  - (i) in total, calculated using no discount ~~and using a discount rate of 10 percent~~; and
  - (ii) by year for each of the first five years estimated.
- 2. Discuss the *reporting issuer's* expectations as to:
  - (a) the sources (including internally-generated cash flow, debt or equity financing, farm-outs or similar arrangements) and costs of funding for estimated future *development costs*; and
  - (b) the effect of those costs of funding on disclosed *reserves* or *future net revenue*.
- 3. If the *reporting issuer* expects that the costs of funding referred to in section 2, could make development of a *property* uneconomic for that *reporting issuer*, disclose that expectation and its plans for the *property*.

## **PART 6        OTHER OIL AND GAS INFORMATION**

### **Item 6.1        *Oil and Gas Properties and Wells***

- 1. Identify and describe generally the *reporting issuer's* important *properties*, plants, facilities and installations:
  - (a) identifying their location (province, territory or state if in Canada or the United States, and country otherwise);
  - (b) indicating whether they are located onshore or offshore;
  - (c) in respect of *properties* to which *reserves* have been attributed and which are capable of *producing* but which are not *producing*, disclosing how long they have been in that condition and discussing the general proximity of pipelines or other means of transportation; and
  - (d) describing any statutory or other mandatory relinquishments, surrenders, back-ins or changes in ownership.
- 2. State, separately for *oil* wells and *gas* wells, the number of the *reporting issuer's* producing wells and non-producing wells, expressed in terms of both *gross* wells and *net* wells, by location (province, territory or state if in Canada or the United States, and country otherwise).

### **Item 6.2        *Properties With No Attributed Reserves***

- 1. For *unproved properties* disclose:
  - (a) the *gross* area (acres or hectares) in which the *reporting issuer* has an interest;

- (b) the interest of the *reporting issuer* therein expressed in terms of net area (acres or hectares);
  - (c) the location, by country; and
  - (d) the existence, nature (including any bonding requirements), timing and cost (specified or estimated) of any work commitments.
2. Disclose, by country, the *net* area (acres or hectares) of *unproved property* for which the *reporting issuer* expects its rights to explore, develop and exploit to expire within one year.

**Item 6.3 Forward Contracts**

1. If the *reporting issuer* is bound by an agreement (including a transportation agreement), directly or through an aggregator, under which it may be precluded from fully realizing, or may be protected from the full effect of, future market prices for *oil* or *gas*, describe generally the agreement, discussing dates or time periods and summaries or ranges of volumes and contracted or reasonably estimated values.
2. Section 1 does not apply to agreements disclosed by the *reporting issuer*
- (a) as financial instruments, in accordance with Section ~~3860~~3861 of the *CICA Handbook*; or
  - (b) as contractual obligations or commitments, in accordance with Section 3280 of the *CICA Handbook*.
3. If the *reporting issuer's* transportation obligations or commitments for future physical deliveries of *oil* or *gas* exceed the *reporting issuer's* expected related future *production* from its *proved reserves*, estimated using *forecast prices and costs* and disclosed under Part 2, discuss such excess, giving information about the amount of the excess, dates or time periods, volumes and reasonably estimated value.

**Item 6.4 Additional Information Concerning Abandonment and Reclamation Costs**

In respect of abandonment and reclamation costs for surface *leases*, wells, facilities and pipelines, disclose:

- (a) how the *reporting issuer* estimates such costs;
- (b) the number of *net* wells for which the *reporting issuer* expects to incur such costs;
- (c) the total amount of such costs, net of estimated salvage value, expected to be incurred, calculated without discount and using a discount rate of 10 percent;

- (d) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that was not deducted as abandonment and reclamation costs in estimating the *future net revenue* disclosed under Part 2; and
- (e) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that the *reporting issuer* expects to pay in the next three financial years, in total.

#### INSTRUCTION

*Item 6.4 supplements the information disclosed in response to clause 3(b)(v) of Item 2.1 and clause 3(b)(v) of Item 2.2.2.1. The response to paragraph (d) of Item 6.4 should enable a reader of this statement and of the **reporting issuer's** financial statements for the financial year ending on the **effective date** to understand both the **reporting issuer's** estimated total abandonment and reclamation costs, and what portions of that total are, and are not, reflected in the disclosed **reserves data**.*

#### Item 6.5 Tax Horizon

If the *reporting issuer* is not required to pay income taxes for its most recently completed financial year, discuss its estimate of when income taxes may become payable.

#### Item 6.6 Costs Incurred

1. Disclose each of the following, by country, for the most recent financial year (irrespective of whether such costs were capitalized or charged to expense when incurred):
  - (a) *property acquisition costs*, separately for *proved properties* and *unproved properties*;
  - (b) *exploration costs*; and
  - (c) *development costs*.
2. For the purpose of this Item 6.6, if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, disclose by country the *reporting issuer's* share of investees' (i) *property acquisition costs*, (ii) *exploration costs* and (iii) *development costs* incurred in the most recent financial year.

#### Item 6.7 Exploration and Development Activities

1. Disclose, by country and separately for *exploratory wells* and *development wells*:
  - (a) the number of *gross wells* and *net wells* completed in the *reporting issuer's* most recent financial year; and

- (b) for each category of wells for which information is disclosed under paragraph (a), the number completed as *oil wells*, *gas wells* and *service wells* and the number that were dry holes.
2. Describe generally the *reporting issuer's* most important current and likely exploration and development activities, by country.

#### **Item 6.8      *Production Estimates***

1. Disclose, by country, for each *product type*, the volume of *production* estimated for the first year reflected in the estimates of ~~*future net revenue*~~ *gross proved reserves and gross probable reserves* disclosed under Items 2.1 and 2.2. **Item 2.1.**
2. If one *field* accounts for 20 percent or more of the estimated *production* disclosed under section 1, identify that *field* and disclose the volume of *production* estimated for the *field* for that year.

#### **Item 6.9      *Production History***

1. To the extent not previously disclosed in financial statements filed by the *reporting issuer*, disclose, for each quarter of its most recent financial year, by country for each *product type*:
  - (a) the *reporting issuer's* share of average daily *production* volume, before deduction of royalties; and
  - (b) as an average per unit of volume (for example, \$/*bbl* or \$/*Mcf*):
    - (i) the prices received;
    - (ii) royalties paid;
    - (iii) *production costs*; and
    - (iv) the resulting netback.
2. For each important *field*, and in total, disclose the *reporting issuer's* *production* volumes for the most recent financial year, for each *product type*.

#### **INSTRUCTION**

*In providing information for each **product type** for the purpose of Item 6.9, it is not necessary to allocate among multiple **product types** attributable to a single well, **reservoir** or other **reserves** entity. It is sufficient to provide the information in respect of the principal **product type** attributable to the well, **reservoir** or other **reserves** entity. Resulting netbacks may be disclosed on the basis of units of equivalency between oil and gas (e.g. BOE) but if so that must be made clear and disclosure must comply with section 5.14 of NI 51-101.*



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FORM 51-101F2  
REPORT ON RESERVES DATA  
BY  
INDEPENDENT QUALIFIED RESERVES  
EVALUATOR OR AUDITOR

This is the form referred to in item 2 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.<sup>1</sup>
2. The report on *reserves data* referred to in item 2 of section 2.1 of *NI 51-101*, to be executed by one or more *qualified reserves evaluators or auditors independent of the reporting issuer*, shall in all material respects be as follows:

**Report on Reserves Data**

To the board of directors of [name of reporting issuer] (the "Company"):

1. We have [audited] [evaluated] [and reviewed] the Company's reserves data as at [last day of the reporting issuer's most recently completed financial year]. The reserves data ~~consist of the following:~~ **are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.**
  - (a) ~~(i) proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and~~
    - (ii) ~~the related estimated future net revenue; and~~
  - (b) ~~(i) proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and~~
    - (ii) ~~the related estimated future net revenue.~~
2. The reserves data are the responsibility of the Company's management. Our responsibility is to express an opinion on the reserves data based on our [audit] [evaluation] [and review].

We carried out our [audit] [evaluation] [and review] in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook (the "COGE Handbook") prepared jointly by the Society of Petroleum Evaluation Engineers

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<sup>1</sup> For the convenience of readers, Appendix 1 to Companion Policy 51-101CP sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101*, *Form 51-101F1*, *Form 51-101F3* or the Companion Policy.

(Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society).

3. Those standards require that we plan and perform an [audit] [evaluation] [and review] to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An [audit] [evaluation] [and review] also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
4. The following table sets forth the estimated future net revenue (before deduction of income taxes) attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent, included in the reserves data of the Company [audited] [evaluated] [and reviewed] by us for the year ended xxx xx, 20xx, and identifies the respective portions thereof that we have [audited] [evaluated] [and reviewed] and reported on to the Company's [management/board of directors]:

Independent Qualified Reserves Evaluator or Auditor	Description and Preparation Date of [Audit/Evaluation/Review] Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (before income taxes, 10% discount rate)			
			Audited	Evaluated	Reviewed	Total
Evaluator A	xxx xx, 20xx	xxxx	\$xxx	\$xxx	\$xxx	\$xxx
Evaluator B	xxx xx, 20xx	xxxx	xxx	xxx	xxx	xxx
Totals			<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx<sup>2</sup></u>

5. In our opinion, the reserves data respectively [audited] [evaluated] by us have, in all material respects, been determined and are in accordance with the COGE Handbook. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
6. We have no responsibility to update our reports referred to in paragraph 4 for events and circumstances occurring after their respective preparation dates.

<sup>2</sup> This amount should be the amount disclosed by the reporting issuer in its statement of reserves data filed under item 1 of section 2.1 of NI 51-101, as its future net revenue (before deducting future income tax expenses) attributable to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent (required by section 2 of Item 2.2 of Form 51-101F1).

7. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. **However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.**

Executed as to our report referred to above:

Evaluator A, City, Province or State / Country, Execution Date

\_\_\_\_\_  
[signed]

Evaluator B, City, Province or State / Country, Execution Date

\_\_\_\_\_  
[signed]

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FORM 51-101F3  
REPORT OF  
MANAGEMENT AND DIRECTORS  
ON OIL AND GAS DISCLOSURE

~~(incorporating amendments of September 19, 2005)~~

This is the form referred to in item 3 of section 2.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

~~as amended September 19, 2005~~

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.<sup>1</sup>
2. The report referred to in item 3 of section 2.1 of *NI 51-101* shall in all material respects be as follows:

**Report of Management and Directors  
on Reserves Data and Other Information**

Management of [name of reporting issuer] (the "Company") are responsible for the preparation and disclosure of information with respect to the Company's oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data, ~~which consist of the following:~~ which are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.

- (a) ~~(i) proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and~~
  - (ii) ~~the related estimated future net revenue; and~~
- (b) ~~(i) proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and~~
  - (ii) ~~the related estimated future net revenue.~~

[An] independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [has / have] [audited] [evaluated] [and reviewed] the Company's reserves data. The report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s] ] [is presented below / will be filed with securities regulatory authorities concurrently with this report].

The [Reserves Committee of the] board of directors of the Company has

<sup>1</sup>

For the convenience of readers, Appendix 1 to Companion Policy 51-101CP sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *NI 51-101*, *Form 51-101F1*, *Form 51-101F2* or the Companion Policy.

- (a) reviewed the Company's procedures for providing information to the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]];
- (b) met with the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to determine whether any restrictions affected the ability of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to report without reservation [and, ~~because~~**in the event** of ~~the~~**a** proposal to change the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]], to inquire whether there had been disputes between the previous independent [qualified reserves evaluator[s] or qualified reserves auditor[s] and management]; and
- (c) reviewed the reserves data with management and the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]].

The [Reserves Committee of the] board of directors has reviewed the Company's procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The board of directors has [, on the recommendation of the Reserves Committee,] approved

- (a) the content and filing with securities regulatory authorities of ~~the~~**Form 51-101F1 containing** reserves data and other oil and gas information;
- (b) the filing of **Form 51-101F2 which is** the report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. **However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.**

---

[signature, name and title of chief executive officer]

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[signature, name and title of a senior officer other than the chief executive officer]

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[signature, name of a director]

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[signature, name of a director]

[Date]



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